In the Claims:

1. A method of speech recognition comprising: decoding multiple HMM sets using one set of sentence network and recognizing speech using said decoded multiple HMM sets.

2. A speech recognizer comprising: means or decoding HMM sets using one set of sentence network and a recognizer recognizing speech using said decoded multiple HMM sets.

3. The method of Claim 1 wherein the means for decoding includes means for building recognition paths defined on expanded symbols and accessing said network using base symbols through a conversion function.

4. The method of Claim 3 wherein said decoding includes within model construction and between model construction. The method of Claim 4 wherein said decoding includes update-observation- probability.

5. A speech recognition search method comprising: providing a set of generic grammars, providing symbols representing a network expanded sets and building recognition paths defined by the symbols and accessing the network using using base symbols through proper conversion function that gives the true symbol of any expanded symbol.

6. A method of speech recognition comprising the steps of: providing a generic network containing base symbols; a single set of HMMs for male and female; building recognition paths defined on virtual symbols corresponding to base symbols; accessing said generic network using said bbase symbols through conversion function that gives base symbols for virtual symbols to therefore decode multiple HMM sets using a single sentence grammar and using said HMM sets to recognize incoming speech.

7. The method of Claim 6 wherein said building step includes for each frame path propagation expansion based on the grammar network and update-observation-probability.

8. The method of Claim 7 wherein said path propagation includes getting offset HMMs ,offset symbols and the base symbol for a given expanded symbol and obtaining the HMM of the previous frame and expanding and storing a sequence set of HMM states both for within model path and cross model path and determining the path with the best transition probability.

9. The method of Claim 8 wherein said update-observation-probability includes getting the base symbol of a expanded symbol and validating state by state the base symbol bbby comparing to speech in the present frame for the base symbol associated with the virtual symbol.